estimate total 4177 DALYs caused by TBE in 2011. **CONCLUSIONS:** TBE burden is quite large in Russia, thus economic evaluation of preventive measures is essential in order to choose the most cost-effective options.

PIN41
HEALTH CARE COSTS ASSOCIATED WITH CHRONIC HEPATITIS C INFECTION IN EUROPE
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OBJECTIVES: Chronic hepatitis C virus (HCV) infection is estimated to effect approximately 15 million persons in Europe. It is a prevalent cause of progressive liver disease including cirrhosis and hepatocellular carcinoma (HCC) and nearly 90,000 deaths that occur annually in the European region are related to HCV infection. The objective of this study was to evaluate the direct health care costs of HCV infection in countries of the European Union. **METHODS:** ENTREZ PUBMED was searched systematically for studies published between 2008 and 2013 that evaluated the health care costs of persons with HCV infection in countries of the European Union. Of the 110 studies identified only 3 contained overall health care costs. Cost data was extracted, inflation adjusted to 2013 costs and averaged. **RESULTS:** Based on the included studies, the average annual health care cost for a person with chronic HCV infection is €2,756 with mild disease, €6,258 with cirrhosis, and €11,437 with HCC. An HCV-related liver transplantation is estimated to have an average cost of €68,497. The reported annual health care costs of patients with chronic HCV infection vary widely, with annual costs ranging between €340 and €6,773 among those categorized as having chronic infection and/or mild disease and between €34,834 and €124,594 among those who have had a liver transplantation. **CONCLUSIONS:** The majority of recent studies have investigated antiviral drug treatment costs; few have examined the overall health care costs associated with chronic HCV infection in Europe. Based upon the data available, chronic HCV infection is associated with a substantial health care burden even among those categorized as having mild disease. Further research is needed to better understand the costs of HCV infection to enable more relevant screening and treatment strategies, especially among those at high risk for developing severe liver disease.

PIN42
PERTUSSIS IN BRAZILIAN CHILDREN: MORTALITY, LENGTH OF STAY, AND COSTS IN HOSPITALIZED PATIENTS
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OBJECTIVES: Bordetella pertussisinfection is highly contagious and can progress to severe conditions, especially among young children and elderly. This study aims to describe hospitalization patterns and costs for pertussis in children in public hospitals in Brazil, from 2008 to 2011. **METHODS:** A retrospective analysis of Brazil public hospital admissions for pertussis was developed according to ICD-10 classification (A37: Pertussis) in children (aged ≤9 years), as reported in Brazilian Hospital Information System (SIH/DATASUS) database from January 2008 to December 2011. Costs represents federal reimbursement values for hospitalizations (includes medical procedures, exams, medications and taxes), presented in 2013 Brazilian Real (BRL). **RESULTS:** A total of 3055 hospital admissions for pertussis during the four-year period were identified. There was a downward trend in the first three years of the analysis, while the opposite occurred in the fourth year, with 2011 having the highest number of cases (907, 655, 394 and 1,099 for 2008, 2009, 2010, and 2011, respectively). Infants were the most affected, with those less than one year of age accounting for 91% (n = 2,779) of all pertussis admissions in the age group analyzed. In-hospital mortality rate was 13.9% for all cause in the period. Mean length of stay was 7.56 days. Total cost for the period was 3,754,877 BRL, which represents 94.9% of pertussis hospitalization costs for all ages (3,958,133 BRL). Mean cost per patient was 1,229 BRL. **CONCLUSIONS:** The costs with pertussis hospitalizations in children can be substantial in Brazil, from the public health care perspective. Despite the existence of a National Immunization Program, the number of cases in children remains high. It is therefore important that decision makers reassess the prevention and treatment patterns of this disease.

PIN43
COST OF INFLUENZA IN GERMANY
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OBJECTIVES: To evaluate cost of children and adults diagnosed with seasonal influenza in Germany, filling a data gap of more than a decade. **METHODS:** This cost-of-illness study was conducted from payer and societal perspective based on a retrospective database analysis by using a longitudinal electronic medical records database (IMS® Disease Analyzer). Patients with influenza episodes (ICD-10 diagnosis J09-11) being observable 12 months before index date and 1 month afterwards were included. The selection window was May 2010 to April 2012 to cover two influenza seasons. Published unit costs and tariffs for Germany in 2012 were used. **RESULTS:** A total of 23,068 influenza episodes (19,446 patients) managed by primary care practitioners (PCP) and 7,295 episodes (5,988 patients) managed by pediatricians were eligible for analysis. Mean age of patients with at least one episode was 43 years (SD 20) in the PCP panel and 7 years (SD 4) in the pediatrician panel. Total average mean cost (SD) from societal perspective in adult patients was €471 (576) and in children €99 (140)/episode. In about 11% of the adult patients the total cost exceeds €1,000/episode. This is primarily due to the higher percentage of patients with complications (63%) compared to the entire PCP study cohort (38%). Workdays lost were the main cost driver (82%) in adult patients; more than 40% of patients missed between 2 and 6 days of work/episode. In children, the main cost driver was physician visits (66%). Complications increase the cost by three fold in children and two fold in adults (average mean cost (SD) for children: €137 (144) vs. €49 (33) and adults: €622 (670) vs. €377 (485)). **CONCLUSIONS:** Results based on a large and representative patient sample demonstrate that the cost of seasonal influenza episodes is substantial, especially when complications occur. Costs in children may be higher of what is actually reported.

PIN44
THE COST OF CLOSTRIDIUM DIFFICILE INFECTION IN HUNGARY
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OBJECTIVES: Clostridium difficile is the leading cause of antibiotic associated infectious nosocomial diarrhoea. *C. difficile* infection is a high-priority problem of public health in each country. The available literature of *C. difficile* infection's disease burden is limited. The authors aimed to identify the most important cost elements and quantify the cost of *C. difficile* infection in Hungary. **METHODS:** A retrospective chart review and experts interviews were done in a sample of 151 patients with *C. difficile* infection in 2011 in two Hungarian hospitals. In the chart review data on demographic, disease severity, therapy, the standard precautions and the infection related contact precautions were collected. Cost analysis was done from the service provider's perspective. **RESULTS:** In department of medicine the annual average cost of *C. difficile* infection was €800 per patient, the annual total cost of a recurrent patient was €1810, the annual additional cost of contact precautions was €330 per patient, the annual average cost of an episode was €570, the additional cost of contact precautions was €235 per episode. In intensive care unit the annual average cost of *C. difficile* infection was €1810 per patient, the annual total cost of a recurrent patient was €3680, the annual additional cost of contact precautions was €470 per patient, the annual average cost of an episode was €1070, the additional cost of contact precautions was €330 per episode. The most notable cost elements in intensive care unit were the hygienic costs and nurse wages, in department of medicine were the hygenic costs. **CONCLUSIONS:** The importance of C. difficile infection in public health and the associated disease burden are significant. The costs differed based on the length of isolation, and the type of the provider department. The available data in Hungary are limited, further studies in epidemiology and health economics are required.

PIN45
DYNAMIC MODELING TO ESTIMATE THE ECONOMIC IMPACT OF INCREASING INFLUENZA VACCINATION IN THE UNITED STATES
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OBJECTIVES: This analysis was conducted to demonstrate potential downstream health care cost savings as a result of increasing vaccination rates for influenza in the United States. **METHODS:** An age-structured susceptible-exposed-infectious-recovered (SEIR) compartmental model was constructed to model the course of influenza infection over the course of 1 year in the United States. A realistic age structure was incorporated using mixing rates between age groups from the European POLYMOD survey. The SEIR model was adapted to include another compartment for vaccination. A series of difference equations was used to model transitions to and from each compartment. Time-dependent vaccination rates were obtained using monthly estimates of vaccination rates obtained from the Centers for Disease Control and Prevention (CDC). Cost and health care utilization data were obtained from the existing literature, and included outpatient visits, hospitalization, and antiviral drug treatment. Costs were reported in 2013 U.S. dollars. Microsoft Excel 2011 was used to conduct the analysis. **RESULTS:** Under a base case vaccination rate of 40 percent, an estimated 11 percent of individuals in the United States were projected to have symptoms of influenza infection. Health care costs attributable to influenza infection were estimated to be $13.6 billion. Increasing vaccination rates to 50 percent decreased the percentage of symptomatic individuals to approximately 7 percent, resulting in downstream health care costs of $9.5 billion. Further increasing vaccination rates to 60 percent is projected to further reduce downstream health care costs to approximately $5.0 billion. **CONCLUSIONS:** This exploratory analysis demonstrates that significant health care cost savings can be realized by increasing vaccination rates for influenza in the population.

PIN46
THE ASSOCIATION BETWEEN ADHERENCE TO ANTIRETROVIRAL THERAPY AND ECONOMIC OUTCOMES AMONG COMMERCIALLY INSURED AND MEDICAID HIV PATIENTS IN THE UNITED STATES
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OBJECTIVES: Achieving optimal outcomes in the treatment of HIV requires high, sustained levels of medication adherence to antiretroviral therapy (ART). Across many conditions, suboptimal adherence has been shown to lead to poorer outcomes among patients. This study assessed the extent to which patients diagnosed with HIV are adherent with ART treatment guidelines and to illustrate associations between ART adherence and economic outcomes. **METHODS:** Commercially insured and Medicaid patients in the US from MarketScan claims databases with ≥2 claims containing an HIV/AIDS diagnosis code between June 1, 2006 and December 31, 2011 who received an ART prescription between June 1, 2007 and December 31, 2010 were selected for initial inclusion. For each patient, the first ART prescription received during that time defined the index date. Patients were ≥18 years old on their index date and had ≥12 months of continuous health plan enrollment with drug benefits before and after their index date. Adherence was measured by patients' proportion of days covered (PDC) with a complete ART regimen during the 12-month post-index date period; patients with PDC ≥80% were considered adherent. Multivariable models (i.e., generalized linear; Poisson) assessed the relationship between ART adherence and economic outcomes (i.e., costs; number of health care encounters), controlling for demographic and clinical characteristics. **RESULTS:** A total of14,590 commercially insured patients met all inclusion criteria, and 59% were adherent; 5,744 Medicaid patients met all